

WO 2005/081091
PCT/EP2005/000895

C l a i m s

1. A device arrangement with at least one switchgear cabinet and one cooling device, wherein the switchgear cabinet has a closed interior in which electrical built-ins can be housed, wherein the cooling device is installed in the area of a lateral surface of the switchgear cabinet which extends vertically in respect to the front and at least over a portion of the height of the switchgear cabinet, and is in spatial connection with the interior through at least one air inlet and at least one venting opening, and wherein the cooling device has a receiving chamber with at least one heat exchanger housed therein,

characterized in that

the receiving chamber of the cooling device (10) is divided at least partially into two or more partial receiving chambers, which are arranged vertically on top of each other, and

a cooling module (20) is housed in at least one of the partial receiving chambers.

2. The device arrangement in accordance with claim 1, characterized in that

on their side facing the switchgear cabinet (30), the partial receiving chambers are closed by means of a cover (16),

the cover (16) constitutes the air inlet (14) and the venting opening (13), and

a sealing element (17) arranged on the outside of the cover (16) in the area between the air inlet (14) and the

WO 2005/081091
PCT/EP2005/000895

venting opening (13) prevents a short circuit of the air.

3. The device arrangement in accordance with claim 1 or 2,

characterized in that

the cooling module (20) has a heat exchanger unit (22) and at least one fan unit (24) as separate components.

4. The device arrangement in accordance with one of claims 1 to 3,

characterized in that

the cooling device (10) has a rack put together from horizontal and vertical profiled frame elements (11, 12, 13), wherein the profiled frame elements (11, 12, 13) are connected with each other in the corners of the rack,

compartment floors (15) are horizontally fastened on the rack for dividing the partial receiving chamber, and

the cooling modules (20) can be placed on the compartment floors (15).

5. The device arrangement in accordance with claim 4, characterized in that

the cooling module (20) or the partial components (in accordance with claim 3) have a structural width which is less than the clear opening dimension between the two vertical profiled frame elements (13) at the front of the rack.

6. The device arrangement in accordance with one of claims 1 to 5,

characterized in that

WO 2005/081091
PCT/EP2005/000895

on its side facing away from the switchgear cabinet (30), the cooling device (10) is sealingly closed off by means of a wall element.

7. The device arrangement in accordance with one of claims 1 to 6,

characterized in that

the cooling device (20) is installed between two switchgear cabinets (30), and

the partial receiving chambers can be selectively brought into an air-conducting connection with the interior chambers of one or both switchgear cabinets (30).

8. The device arrangement in accordance with one of claims 1 to 7,

characterized in that

at least one of the cooling modules (20) is in spatial connection with both interiors of the switchgear cabinets (30) via air inlets (14) and venting openings (13).

9. The device arrangement in accordance with one of claims 1 to 8,

characterized in that

the cooling device (20) has a feed and a return line, through which coolant can be conveyed, and

the cooling modules (20) can be connected to the feed and the return lines.

10. The device arrangement in accordance with claim 9, characterized in that

the feed and return lines have rapid coupling devices,

WO 2005/081091
PCT/EP2005/000895

by means of which the cooling modules (20) are connected.

11. The device arrangement in accordance with one of claims 1 to 10,

characterized in that

the electrical installations (31) are embodied as server units, which have cooling conduit structures extending in the direction of the switchgear cabinet interior, and

the venting opening (13) of the cooling conduit structure is assigned to the front of the switchgear cabinet (30), and the air inlet (14) to the area of the rear of the switchgear cabinet (30).